

## WHAT IS CLAIMED IS:

1. A method for detecting a data cartridge in a cartridge engaging assembly, comprising:
  - emitting a signal from a signal emitter on the cartridge engaging assembly into a chamber formed within the cartridge engaging assembly;
  - 5 detecting at least a portion of said emitted signal when said emitted signal is reflected from the data cartridge; and
  - generating output to indicate whether said data cartridge is present in said cartridge engaging assembly based on said detected signal.
2. The method of claim 1, wherein emitting the signal is at least during start-up.
3. The method of claim 1, wherein emitting the signal is at least during power-up of the cartridge-engaging assembly.
4. The method of claim 1, further comprising focusing said signal for detection.
5. The method of claim 1, further comprising deciphering a color of said data cartridge based on said detected signal.
6. A data cartridge detection system, comprising:
  - a cartridge engaging assembly for receiving a data cartridge therein;
  - a signal emitter operatively associated with said cartridge engaging assembly, said signal emitter producing a signal that is reflected by the
  - 5 presence of the data cartridge within said cartridge engaging assembly; and
  - a signal detector operatively associated with said cartridge engaging assembly, said signal detector being responsive to the reflected signal produced by said signal emitter and indicating that the data cartridge is present in said cartridge engaging assembly.

7. A data cartridge detection system, comprising:  
means for receiving a data cartridge therein;  
means for emitting a signal positioned on said means for receiving;  
and
- 5 means for detecting said signal when said signal is reflected from the data cartridge, said means for detecting mounted to said means for receiving, wherein said means for detecting generates output to indicate whether said data cartridge is present in said means for receiving based on said detected signal.
8. The system of claim 7, wherein said means for emitting comprises a light source.
9. The system of claim 7, wherein said means for detecting comprises a light detector.
10. A method comprising:  
detecting a signal reflected from a data cartridge in a picker assembly;  
and  
moving the picker assembly after a loading operation only if the
- 5 detected signal indicates the data cartridge is engaged in the picker assembly.
11. The method of claim 10, further comprising moving the picker assembly after an unloading operation only if the detected signal indicates the data cartridge is disengaged from the picker assembly.
12. The method of claim 10, further comprising determining a color of the data cartridge.
13. The method of claim 10, further comprising identifying a type of the data cartridge.

14. The method of claim 10, further comprising identifying a type of the data cartridge based on a color of the data cartridge.

15. A system comprising a signal detector responsive to a signal emitted into a picker assembly, said signal detector indicating during a loading operation that a data cartridge is engaged in said picker assembly before said picker assembly can be moved.

16. The system of claim 15, wherein said signal detector indicates during an unloading operation that the data cartridge is disengaged from said picker assembly before said picker assembly can be moved.

17. The system of claim 15, further comprising a processor determining when the data cartridge is engaged in said picker assembly.

18. The system of claim 15, further comprising a color-deciphering component determining a color of the data cartridge in said picker assembly.

19. The system of claim 15, further comprising a processor identifying a type of the data cartridge.

20. The system of claim 15, further comprising a processor identifying a type of the data cartridge based on a color of the data cartridge.